



Teacher's Background

Maquiladora or assembly plant

The United States and Mexico share a border that stretches 1,956 miles (3,148 kilometers) from Tijuana and San Diego on the western end to Matamoras and Brownsville on the east. The area 62 miles (100 kilometers) north and south of the U.S.-Mexico border is defined as the border region.

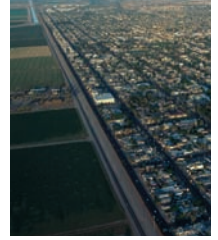
Its varied geography of deserts, mountains, and wetlands makes this region physically diverse. The region is also culturally diverse. Through history, various ethnic groups have come to the area for different, and often conflicting, reasons. Some families have immigrated to the area for economic reasons, some to live in the temperate climate, while indigenous peoples have lived there for centuries. Waves of immigration have created a population that is racially and ethnically diverse. The population growth in this region has also left its mark on the land

and waterways belonging to both countries; it continues to influence decisions on how to use and manage the area's natural resources.

The distinctive social conditions of the border region have a history that stretches back to the mid-nineteenth century, but economic, demographic, and social pressures in Mexico, along with new laws and economic incentives in the United States have created a relatively new migration of people to this area. In particular, the success of the *maquiladora* program in northern Mexico is encouraging people to migrate to the border region

for jobs. Maquiladoras are Mexican corporations that operate under a special program. Maquiladoras can be assembly plants, manufacturing facilities, food packing plants, or even call centers. Maquiladoras can be located pretty much anywhere in Mexico, not just the border region. Many U.S. companies have built plants on the Mexican side of the border to take advantage of cheaper, more abundant labor and less stringent environmental laws and enforcement.

While some migrants are attracted by the booming economy, many



others move to the region attracted by the inexpensive real estate market, mild climate, and opportunities for leisure activities.

Twelve million people currently inhabit the border region, and experts expect that number to double by 2025. The population pressures influence the arid environment of the region, especially in areas that lack important infrastructure and accessible resources, like water. This stress on the land and waterways sometimes creates political strain between the two nations as the United States and Mexico search for ways to manage the resources they “shared.”

The key environmental issues that influence relations between the United States and Mexico specifically involve water quantity and quality, waste management, and air quality. These issues transcend the political border because they simultaneously influence all the communities in the region. For example, in parts of the Rio Grande **watershed**, factors such as population growth, the arid climate, groundwater depletion, and drought often create water shortages. Sharing river water and groundwater is difficult if the two nations do not communicate information about the quality and quantity of water that moves back and forth across the border. Both nations rely on the water in the shared watershed for industry, agriculture, and community maintenance. Over time, the quantity and quality of river water have decreased. Much of the groundwater has become highly saline partly due to mismanagement; the high level of salinity further limits the water’s use. These circumstances make the increase in population even more of an issue in the border region. The lack of clean, potable water is influencing agricultural production and impacting human health, especially in the Rio Grande River Valley and

the Colorado River Basin.

Waste management also influences the human and natural systems in the border region. The lack of municipal infrastructure in poorer communities on both sides of the border leads to illegal dumping of solid and hazardous waste. Raw sewage pollutes aquifers, surface water, and coastal water in areas where treatment facilities are absent or insufficient. The Texas Natural Resource Conservation Commission (TNRCC) reported that pollution of many areas along the Rio Grande with human fecal matter make the water unsafe for swimming, let alone for municipal use. Agricultural runoff and industrial solvents continue to affect the soil and water systems in the region. Much of the region employs outdated agricultural production techniques that influence the quality of the soil and water. As industry continues to increase along the border, so do industrial byproducts. Many of the maquiladoras located

along the border use solvents, paints, and other chemicals whose use is illegal on the U.S. side of the border. While most of the *maquiladoras* are encouraged to dispose of these chemicals safely, some continue to discharge their waste directly into the soils and waterways. For example, the Arizona Department of Environmental Quality (ADEQ) has found high concentrations of uranium and sulfates in tailings from mining operations just a few miles from Nacos, Sonora, and Nacos, Arizona. These tailings sit on top of a **binational** aquifer used by communities on both sides of the border, and the people who live in the area are becoming concerned that the toxins will start showing up in their well water. While soils provide a valuable **ecosystem service** by absorbing some toxins before they can get into groundwater, soil that



Municipal worker clearing trash



Cars crossing the U.S.-Mexico border

becomes too contaminated ceases to function in this way.

Industrialization, urbanization, and transportation are influencing the air quality along the border. Byproducts from vehicles, power plants, and industrial factories take on the form of gases, liquid droplets, and solids. These gases and particulates can exist for long periods of time and travel long distances. Since air basins, like watersheds, go beyond political boundaries, air quality is a cross-border concern. While the point of origin is an important issue, the dispersal and detrimental consequences of air pollution on both sides of the border remain more immediate concerns.

Nonpoint source pollution (NPS), such as that caused by exhaust from vehicular traffic, has been increasing over the past 20 years as a result of population and economic growth. The growth in NPS pollution is especially notable in the larger urban communities of the border region, where travel between the two countries is on the rise. Diesel trucks used to transport goods to and from Mexico and the United States idle for hours at a time during

border crossings. Idling vehicles are a major source of particulate matter that increases air pollution along the border and beyond.

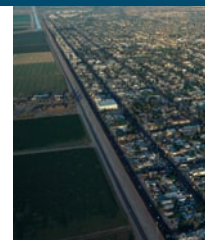
Making decisions concerning the border region requires consideration of intertwined social issues. The rate of poverty in the border region is much higher than in other parts of the two nations. Three of the ten poorest counties in the United States are located in the border region, and the unemployment rate along the U.S. side of the Texas-Mexico border is 250 to 300% higher than in the rest of the country. In general, the communities on the Mexican side of the border have less access to clean water, electricity, and other infrastructure than the rest of Mexico. These economic pressures create needs that complicate oversight and management of the area's natural resources.

A variety of people with differing needs depend on and, in turn, influence the natural systems in this region. What results is a conflict of opinion on how to best use and manage the resources available. **Stakeholders** on both sides of the border have different

ideas on how to balance the existing social, economic, political, and environmental concerns. The local communities, indigenous groups, and local governments are just as concerned about the issues as the federal agencies, non-governmental organizations (NGOs), and national leaders, but they sometimes weigh the issues and solutions differently. Nevertheless, all agree that the quality of the water, air, and soil is important to all people in the region.

In the twentieth century and already in the twenty-first century, the United States and Mexico have entered into several agreements that address the use and management of the shared natural systems found in the border region. **Trade liberalization** treaties between North American nations have forced the countries to deal with the environmental issues that are connected to the political and economic changes. Since the North American Free Trade Agreement (NAFTA) was established in 1993, observers in both countries recognize these environmental issues, and people working for federal governmental agencies in the United States and Mexico, local government agencies, NGOs, public officials, and indigenous groups have all been working together to analyze and evaluate the social, political, economic, and environmental issues in the border region.

Historically, the regulatory efforts of the United States and Mexico have been significantly different. The two countries' environmental laws are comparable, yet, due to economic and political factors, Mexico's enforcement of these laws has been less stringent than enforcement in the United States. The United States has more resources to conduct assessments of the environmental issues than does Mexico. Authorities



to date have done few such assessments in the Mexican states that are in the border region. This imbalance makes solving the border issues challenging, but not impossible. The Border Environmental Cooperation Commission (BECC) and the North American Development Bank (NADB), created as part of the NAFTA agreement, are specifically mandated to address the area's environmental health and fund projects to increase infrastructure on both sides of the border in order to improve and maintain a high quality of life. The "Border 2012 Program," a collaborative effort between U.S. and Mexico federal agencies, works to improve the environment along the border and protect the health of people living there by focusing on ways to clean the air, provide safe drinking water, reduce exposure to hazardous wastes, and prepare for emergencies. These major **treaties** and programs have helped to improve political relations between the United States and Mexico, while making headway in increasing the quality of human life and the health of the natural systems in the border region.

Since many of the solutions to environmental issues are not contained by political boundaries, to be most effective, the two nations

must work together to address regulation and management of natural resources on both sides of the border. Maquiladoras operating on the Mexican side of the border, many of them owned by American corporations, provide jobs. However, if they dump hazardous wastes in the local community, it represents a problem for both nations. Those wastes eventually end up in the water and soil of communities in both Mexico and the United States. Similarly, the lack of sufficient

infrastructure to manage sewage in San Diego has led to a decade of beach closures and damage to its local riparian and coastal ecosystems. The water and sediment in these affected ecosystems moves many miles up and down river valleys and the California coast. The environmental issues of the border region are rapidly, and for legitimate reasons, becoming issues of regional and international concern.



Officials from San Diego and Tijuana

Glossary

Binational: Involving two nations.

Ecosystem services: The functions and processes that take place in natural systems, such as pollination, that support or produce goods and help sustain human life, economies, and cultures.

Infrastructure: Fundamental facilities and systems, such as utilities, communications, and roads that serve a human community.

Maquiladora: Mexican corporations that operate under a special program. Maquiladoras can be assembly plants, manufacturing facilities, or even food packing plants or call centers.

Nonpoint source pollution: Pollution that comes from a wide range of sources rather than a single "point" such as a discharge pipe. Most nonpoint source pollution occurs as a result of runoff.

Stakeholders: Individuals, groups, or organizations that have an interest in

or concern about a particular action or decision.

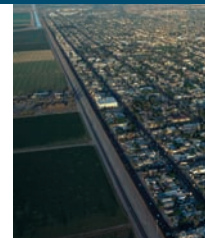
Trade liberalization: The decrease in trade barriers and tariffs to increase fair trade between countries.

Treaty: An agreement or protocol between two or more nations to create or restrict rights and responsibilities.

Watershed: The region of land that drains water into a particular watercourse or body of water.

Unit Planner

	Lesson	Learning Objective(s)	At a Glance
1	The Tijuana River: A Shared Resource Preparation Time: 15 min. Instructional Time: 55 min.	<ul style="list-style-type: none"> ■ Identify key environmental issues that influence the relations between the United States and Mexico. ■ Provide examples of environmental impacts that are not contained by the political boundaries between the United States and Mexico. 	<p>Students brainstorm problems and issues that influence relations between the United States and Mexico. They read and discuss an article about the environmental issues involving the Tijuana River watershed and consider how these issues influence life in the border region.</p>
2	Life on the Border Preparation Time: 20 min. Instructional Time: 55 min.	<ul style="list-style-type: none"> ■ Identify key environmental issues that influence the relations between the United States and Mexico. ■ Provide examples of environmental impacts that are not contained by the political boundaries between the United States and Mexico. 	<p>Students read about environmental problems in the border region; locate on a map the areas where these problems are reported; and analyze how these problems are connected. Students discuss how environmental problems influence the relationship between the United States and Mexico.</p>
3	Population Pressures Preparation Time: 20 min. Instructional Time: 55 min.	<ul style="list-style-type: none"> ■ Recognize the influence of growing human populations in the United States and Mexico on the relationships between the countries and their decisions about the use and management of natural systems and the goods and ecosystem services they produce. 	<p>Students add population data to a map of the border region, analyze the infrastructure and economic opportunities in specific border cities, and consider the effects of population growth on the environmental problems discussed in previous lessons.</p>
4	From a Different Perspective Preparation Time: 20 min. Instructional Time: 55-min. each, Session 1 and Session 2	<ul style="list-style-type: none"> ■ Describe the difference between the two countries in terms of how each assesses and balances social, economic, political, and environmental factors in its decisions about the use and management of natural systems and the goods and ecosystem services they produce. 	<p>Students read about the Rio Grande and work in groups to prepare for a simulated conference. Students present the perspectives of various stakeholders concerned about water quality issues in the Rio Grande watershed and discuss the factors important to these stakeholders.</p>



Prerequisite Knowledge	All Materials Needed	Textbook Alignment
<p>Students should know about:</p> <ul style="list-style-type: none"> ■ The general geography and location of the United States and Mexico. 	<p>Lesson Toolboxes identify lesson-specific needs.</p> <p>Activity supplies:</p> <ul style="list-style-type: none"> ■ Self-adhesive notes (3"X3" or larger): three to five per student ■ Maps of the U.S.-Mexico border ■ Transparency markers: variety of colors for eight groups (Optional) ■ Timer <p>A-V equipment:</p> <ul style="list-style-type: none"> ■ Overhead or LCD projector, screen <p>Class supplies:</p> <ul style="list-style-type: none"> ■ Markers, paper, pencils, pens, tape 	<p>Prentice Hall: America Past and Present (2002) Pages 708-709, 714-715, 752, 794, 889, 984, 994</p> <p>America Pathways to the Present, Modern American History (2005) Pages 908-911</p> <p>America Pathways to the Present, Modern American History (2007) Pages 915, 917</p>
<p>Students should be able to:</p> <ul style="list-style-type: none"> ■ Read a map and locate places on a map. 		<p>Holt: American Nation in the Modern Era (2005) Pages 347-351, 509-511, 524, 813-815, 826-827</p>
<p>Students should know about:</p> <ul style="list-style-type: none"> ■ Basic population dynamics. <p>Students should be able to:</p> <ul style="list-style-type: none"> ■ Read and interpret maps. ■ Read and interpret statistical data and percentages. 		<p>McDougal Littell: The American Pageant, Twelfth Edition PE Pages 1004, 1014, 1023-1024, 1026-1027, GB Pages 353-362, 402-420</p>
<p>Students should be able to:</p> <ul style="list-style-type: none"> ■ Write and present a brief speech on a selected topic. 		<p>The Enduring Vision, Fourth Edition PE Pages 618, 652, 741-742, 743a-743b, 751, 776, 835-836, 900, 928-929, 948-949, SG Pages v2 77, 112, 114, 126, 156, 189, 204, 207</p> <p>The Americans: Reconstruction to the 21st Century (2003) Pages 662, 864, 885-886</p>

Unit Planner

	Lesson	Learning Objective(s)	At a Glance
5	International Agreement Preparation Time: 15 min. Instructional Time: 55 min.	<ul style="list-style-type: none"> ■ Identify treaties and conventions that regulate environmental issues shared by both the United States and Mexico. 	Using a jigsaw approach, students learn about an international agreement, the environmental provisions in an international trade agreement, and a binational program designed to regulate environmental issues in the border region.
6	The Future of the Tijuana River Preparation Time: 15 min. Instructional Time: 55 min.	<ul style="list-style-type: none"> ■ Identify key environmental issues that influence the relations between the United States and Mexico. ■ Provide examples of environmental impacts that are not contained by the political boundaries between the United States and Mexico. 	Students read about several organizations' efforts to resolve environmental issues in the Tijuana River watershed. The class discusses these efforts in light of actions in the rest of the border region and examine how the efforts influence U.S.-Mexico relations.



Prerequisite Knowledge	All Materials Needed	Textbook Alignment
<p>Students should have:</p> <ul style="list-style-type: none"> ■ Completed previous lessons. 		<p>Glencoe: American Odyssey, the United States in the 20th Century (2004) Pages 623-624, 885, 888, 926</p> <p>The American Republic Since 1877 (2005) SE Pages 903, 905</p> <p>The American Vision (2005) SE Page 935</p> <p>The American Vision Modern Times (2006) SE Pages 828-829, 943-944, 946</p> <p>AMSCO: United States History Pages 631-632 Based on sample textbooks available at the time of production.</p>
<p>Students should have:</p> <ul style="list-style-type: none"> ■ Completed previous lessons. 		

English Language Development

Lessons in the EEI Curriculum are designed to support students' English language development. The strategies in these lessons are based on some of the practices identified in the Reading/Language Arts Framework for California Public Schools (California Department of Education 2007) and ideas adapted from the San Joaquin County Office of Education's Regional Technical Assistance Center.

To establish successful instructional strategies for all students, the teacher should:

- **Use a wide variety of ways to explain a concept or assignment.** When appropriate, the concept or assignment may be depicted in graphic or pictorial form, with manipulatives, or with real objects to accompany oral and written instructions.
- **Provide assistance in the specific and general vocabulary** prior to the each lesson, using reinforcement and additional practice afterward. Instructional resources and instruction should be monitored for ambiguities and language that could be confusing to students, such as idioms.
- **Ask each student frequently to communicate** his or her understanding of the concept or assignment. Students should be asked to verbalize or write down what they know, thereby providing immediate insight into their thinking and level of understanding. In addition, students should be encouraged to confer about each other's understanding of the concept being taught and the classwork or homework assignments, particularly if the students are not fully proficient in English.
- **Check frequently for understanding in a variety of ways.** When a student does not understand, analyze why.
- **Allow students to demonstrate their understanding and abilities** in a variety of ways while reinforcing modes of communication that are used on standardized tests.
- **Use pacing to differentiate instruction according to students' needs.** Reinforce the more difficult concepts for students experiencing difficulty in the language arts by providing additional time and using the visual aids provided. Accelerate the instructional pace for advanced learners if the assessments indicate mastery of the standard.

The California EEI Curriculum includes a variety of research-based English language development practices, such as:

Vocabulary Development

- Teach difficult vocabulary prior to and during the lesson
- Provide reading, speaking, and assessment tasks that reinforce new vocabulary

Reading Comprehension

- Use grade-level readers, articles, and reading assignments to build comprehension in the content area
- Engage students in meaningful interactions about text
- Provide activities that assess student comprehension and build decoding skills

Writing Strategies and Applications






- Provide opportunities for students to organize ideas and information in a written form including concept maps

- Use stories, articles and other written materials to model good writing
- Provide assessment tasks that allow students to apply their grade-level writing skills

Listening and Speaking Strategies and Applications

- Ask questions to ensure comprehension
- Elicit responses from all students, encourage students to give elaborate responses, and give students time to respond to questions
- Incorporate students' responses, ideas, examples, and experiences into the lesson
- Model and teach language patterns needed to understand and participate in the study of the content areas
- Encourage a high level of response accuracy
- Use visual aids, manipulatives, and real objects to support content delivery

The lessons in this unit can be used to support a variety of English language arts skills. This matrix summarizes how each of the lessons can be used to support English language development.

	 Vocabulary	 Reading	 Writing	 Listening	 Speaking
Lesson 1	✓	✓	✓	✓	✓
Lesson 2	✓	✓	✓	✓	✓
Lesson 3	✓	✓	✓	✓	✓
Lesson 4	✓	✓	✓	✓	✓
Lesson 5	✓	✓	✓	✓	✓
Lesson 6	✓	✓	✓	✓	✓

Differentiated Instruction

The 2007 Reading/Language Arts Framework for California Public Schools (California Department of Education 2007) provides guidance for helping students with diverse abilities succeed with California's English–Language Arts Content Standards. The instructional units developed for California's Education and the Environment Initiative provide ample opportunities for teachers to differentiate instruction to meet these needs.

It is important to take into account the State Board of Education's and Department of Education's guidance on differentiated instruction while implementing this instructional unit. Page 263 of the 2007 Framework summarizes this guidance as follows:

The diversity of California's students presents unique opportunities and significant challenges for instruction. Students come to school with a wide variety of skills, abilities, and interests as well as varying proficiency in English and other languages. The wider the variation of the student population in each classroom, the more complex becomes the teacher's role in organizing high-quality curriculum and instruction in the language arts and ensuring that each student has access according to the student's current level of achievement. The ultimate goal of language arts programs in California

is to ensure access to high-quality curriculum and instruction for all students in order to meet or exceed the state's English–language arts content standards. To reach that goal, teachers need assistance in assessing and using the results of that assessment for planning programs, differentiating curriculum and instruction, using grouping strategies effectively, and implementing other strategies for meeting the needs of students with reading difficulties, students with disabilities, advanced learners, English learners, and students with combinations of special instructional needs.

Procedures that may be useful in planning for universal access are to:

- Assess each student's understanding at the start of instruction and continue to do so frequently as instruction advances, using the results of assessment for program placement and planning.
- Diagnose the nature and severity of the student's difficulty and modify curriculum and instruction accordingly when students have trouble with the language arts.
- Engage in careful organization of resources and instruction and planning to adapt to individual needs. A variety of good teaching strategies that can be used according to the situation should be prepared.
- Differentiate when necessary as to depth, complexity, novelty, or pacing and focus on the language arts standards and the key concepts within the standards that students must master to move on to the next grade level.
- Employ flexible grouping strategies according to the students' needs and achievement and the instructional tasks presented.
- Enlist help from others, such as reading specialists, special education specialists, parents, aides, other teachers, community members, administrators, counselors, and diagnosticians when necessary and explore technology or other instructional devices or instructional materials, such as braille text, as a way to respond to students' individual needs.

Additional information about best practices in differentiated instruction are detailed in Chapter 7 of the Framework.



Traditional Unit Assessment

Description

The United States and Mexico—Working Together (Traditional Unit Assessment Master) assesses the students' understanding of U.S.-Mexico relations with regard to shared environmental issues. Answers to the questions demonstrate students' understanding of the environmental issues and stakeholder perspectives in the border region, as well as the economic, political, social, and environmental factors that influence U.S.-Mexico relations.

Advanced Preparation

Prepare Traditional Unit Assessment Masters.

Suggested Scoring

Use the Answer Key provided on pages 22–25.

Point values for each question are listed on **The United States and Mexico—Working Together**. The total possible score is 50 points.

Preparation Time

10 min.

Assessment Time

55 min.

The United States and Mexico—Working Together

Traditional Unit Assessment Master | page 1 of 4

Name: _____

Section 1: Multiple Choice (2 points each)

Instructions: Select the best answer and circle the correct letter.

1. One of the biggest environmental issues in the border region influencing relations between the United States and Mexico is:
 - a. construction of new housing along the border
 - ☒ b. availability of potable water
 - c. transportation of goods across the border
 - d. the Tijuana River watershed
2. What is the main reason population is growing so quickly in the border region?
 - a. The land is very cheap.
 - ☒ b. There are jobs in new industries.
 - c. The climate and resources are changing.
 - d. The rivers have less water in them.
3. Which of these is not an environmental issue for border cities in both the United States and Mexico?
 - ☒ a. median household income
 - b. air quality
 - c. availability of potable water
 - d. industrial growth
4. The Colorado River is an important natural resource for both countries because:
 - a. Pesticides used in surrounding agricultural production are dumped in the river.
 - b. Goods from the maquiladoras are transported on the river.
 - ☒ c. The river water is important for industry, agriculture, and municipal use.
 - d. All of the above.
5. The Border 2012 Program provides a way for:
 - ☒ a. stakeholders in the border region to work on environmental issues together
 - b. federal agencies to control and manage the Mexico's natural resources
 - c. the U.S. government to clean up the border immediately
 - d. none of the above

Answer Key and Sample Answers

The United States and Mexico—Working Together

Traditional Unit Assessment Master | page 2 of 4

Name: _____

6. The main goal of the La Paz Agreement is to:
- a. pay for environmental projects in local communities
 - b. enforce international environmental laws
 - ☒ c. cooperate in addressing environmental issues in the border region
 - d. increase the size of communities along the border
7. One of NAFTA's goals of is to:
- a. encourage population growth by increasing free trade
 - b. enforce Mexican and U.S. environmental laws
 - c. manage natural resources and national parks in both countries
 - ☒ d. address environmental concerns related to industry in the border region
8. The Tijuana River watershed is an area in which there is binational cooperation on environmental issues because:
- a. The water in the river is running out.
 - ☒ b. The health of the river affects both the United States and Mexico.
 - c. Industries on both sides of the border influence the river.
 - d. Cities on both sides of the border use the water in the river to drink.
9. Which of the following is not a factor that directly influences government decisions about natural resources in the border region?
- ☒ a. literacy rates
 - b. job opportunities
 - c. poverty
 - d. human health
10. Which of the following will most likely have the biggest effect on the resources of the border region in the future?
- a. industrialization
 - b. agriculture
 - c. soil salinity
 - ☒ d. population growth

The United States and Mexico—Working Together

Traditional Unit Assessment Master | page 3 of 4

Name: _____

Section 2: Short Answer (10 points each)

Instructions: In complete sentences, answer each of the following questions.

11. Describe one specific environmental issue in the border region, explain a problem related to that issue, and discuss how that problem influences relations between the United States and Mexico.

One major environmental issue in the border region is the quality of water. The problem is water pollution. Several factors have caused the pollution: population growth, pesticide use in agriculture, lack of treatment for wastewater, and other pollutants ending up in the water. This issue creates tension between the United States and Mexico because the two countries share much of the water. The issue also forces the two countries to assess the situation, educate communities, and work to restore the quality of water.

12. Choose two stakeholders in the border region who have different views on how to manage the natural resources in the region. Discuss the ways each stakeholder assesses and balances social, economic, and environmental factors when setting its goals.

The Kikapu are an indigenous group directly connected to environmental issues in the region. They believe in working communally on the land. However, since the Mexican government ended the ejido system, the Kikapu graze cattle on land they cannot afford to own. The Kikapu want a portion of the water in the Rio Grande to use for irrigation. Because they lack legal rights and representation, they do not have access to the water. The social and economic concerns of their community are at the forefront of their decisions.

The U.S. Fish and Wildlife Service has the goal of protecting and restoring natural systems affected by pollution in the region. The Fish and Wildlife Service is working to educate the population about the ecosystem services and the effects of human activities on the natural systems. They are also working on restoration projects to improve the ecosystems.

Answer Key and Sample Answers

The United States and Mexico—Working Together

Traditional Unit Assessment Master | page 4 of 4

Name: _____

13. Describe a particular treaty or agreement between the United States and Mexico related to improving the environment. Explain how the treaty or agreement influences life in the border region.

The Border 2012 Program is a binational agreement between the United States and Mexico.

It encourages all of the stakeholders' involvement in solving problems in the border region.

Stakeholders at the local, regional, and national level, including indigenous groups and colonia residents. They are working together to protect the environment and public health in the border region. The main goals are to reduce water contamination, air pollution, and land contamination and to increase emergency preparedness and environmental stewardship.

Stakeholders are meeting some of their goals and still working toward others. They are meeting goals by assessing the environmental problems, analyzing the economic, political, and social factors at stake, educating the public, and establishing restoration projects.

Alternative Unit Assessment

Description

The **Environmental Problem Concept Map** (Alternative Unit Assessment Master) can be used in conjunction with, or in place of, the traditional unit assessment to demonstrate students' understanding of key issues related to U.S.-Mexico relations and the environmental issues that face the two countries.

In this assessment, students create a concept map that shows connections between an environmental issue and the various stakeholders concerned with the issue, population pressures, international treaties, and programs used to help manage the environmental issue. This alternative assessment can be completed in one class period by students working individually.

Advanced Preparation

Gather and prepare Materials Needed:

- All student work from Lessons 1 through 6, assessed by teacher.

Gather and prepare Alternative Unit Assessment Masters.

Suggested Scoring

Use the Answer Key and Sample Answers on pages 28–30 to assess students' diagrams.

Each question on **Environmental Problem Concept Map** is worth 10 points. The total possible score is 50 points.

Materials Needed

Alternative Unit
Assessment Masters:
■ **Environmental Problem
Concept Map**
SM, Page 7
One per student

Preparation Time

15 min.

Assessment Time

60 min

Safety Notes

None

Procedures

Step 1

Explain that, to show what they have learned, students are to work individually to create a concept map of information about one of the environmental issues—water, air, or land/soil—in the border region. Direct students to use their notes, readings, and worksheets from all the lessons in the unit to help them complete their concept maps.

Step 2

Distribute copies of **Environmental Problem Concept Map** (Alternative Unit Assessment Master) to each student. Remind students that they are to address one of the following issues: water, air, or land/soil. They should write the issue they choose in the center of the concept map. Each part of the concept map should be filled in with information related to that issue.

Step 3

When time is up, collect **Environmental Problem Concept Map** from each student to use in assessment.

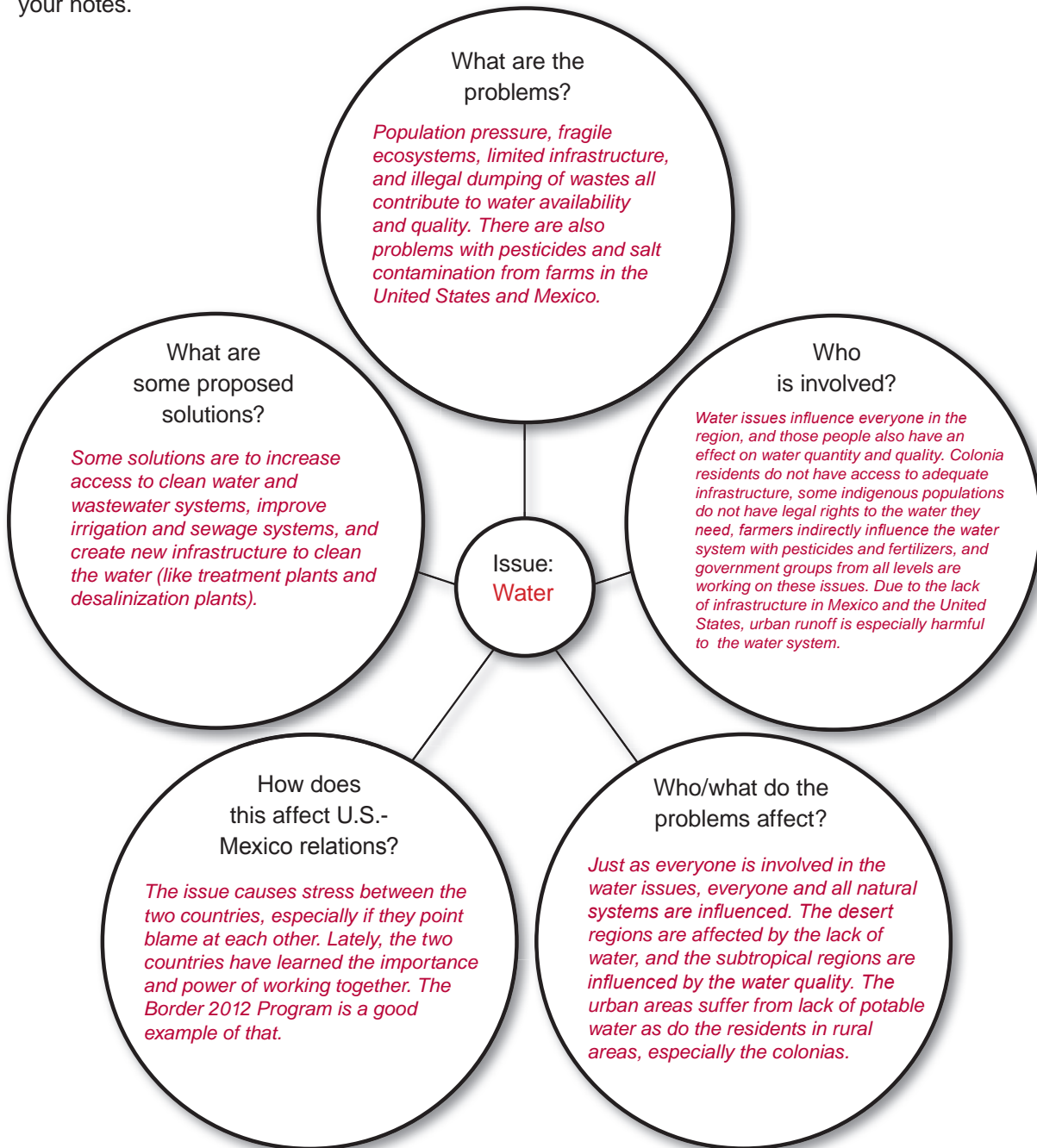
Answer Key and Sample Answers

Environmental Problem Concept Map

Alternative Unit Assessment Master

Name: _____

Instructions: Using all of your notes and assignments from the unit, create a concept map for one issue—water, air, or land/soil—in the border region. Be sure to use specific examples from your notes.



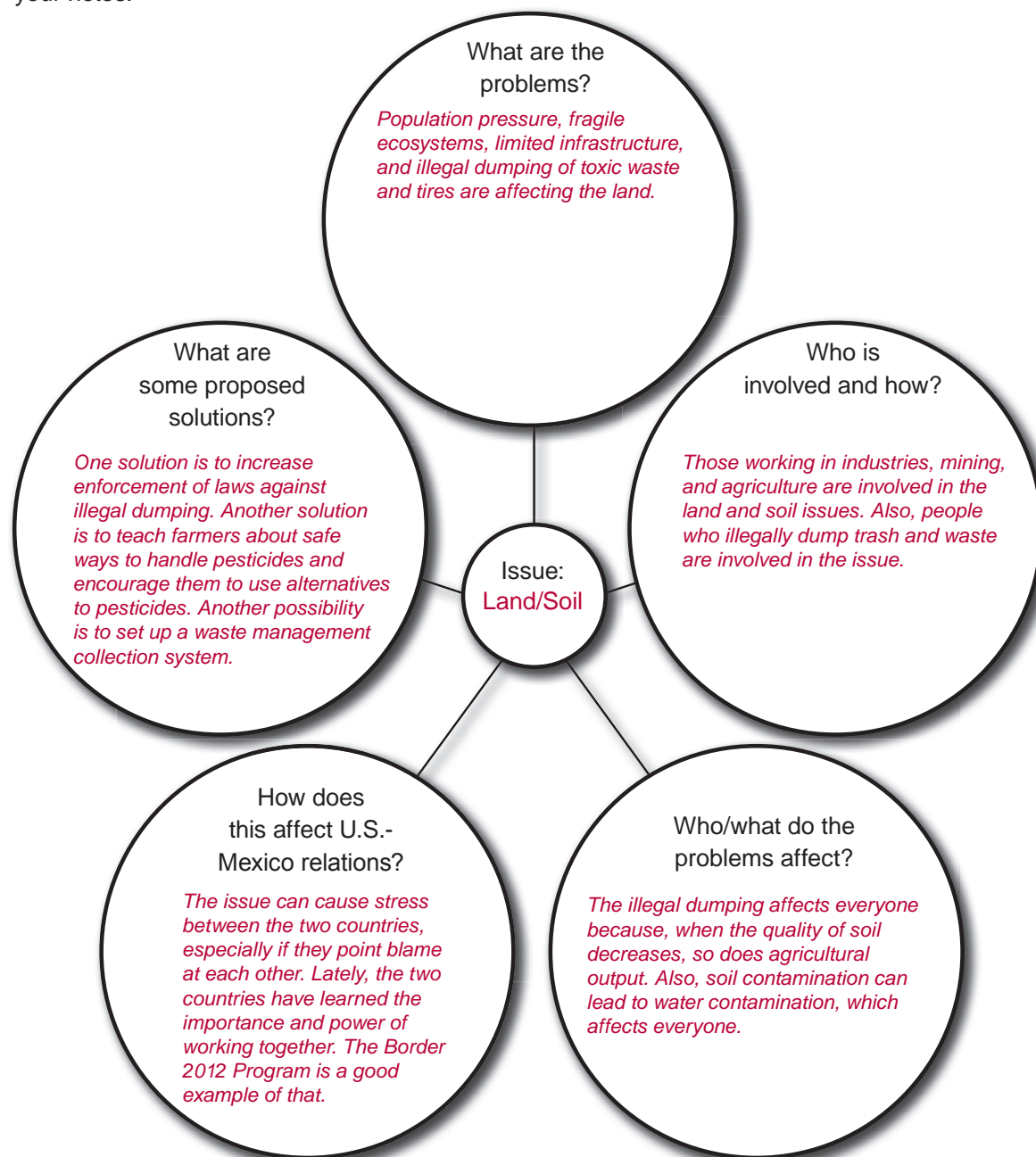
Answer Key and Sample Answers

Environmental Problem Concept Map

Alternative Unit Assessment Master

Name: _____

Instructions: Using all of your notes and assignments from the unit, create a concept map for one issue—water, air, or land/soil—in the border region. Be sure to use specific examples from your notes.



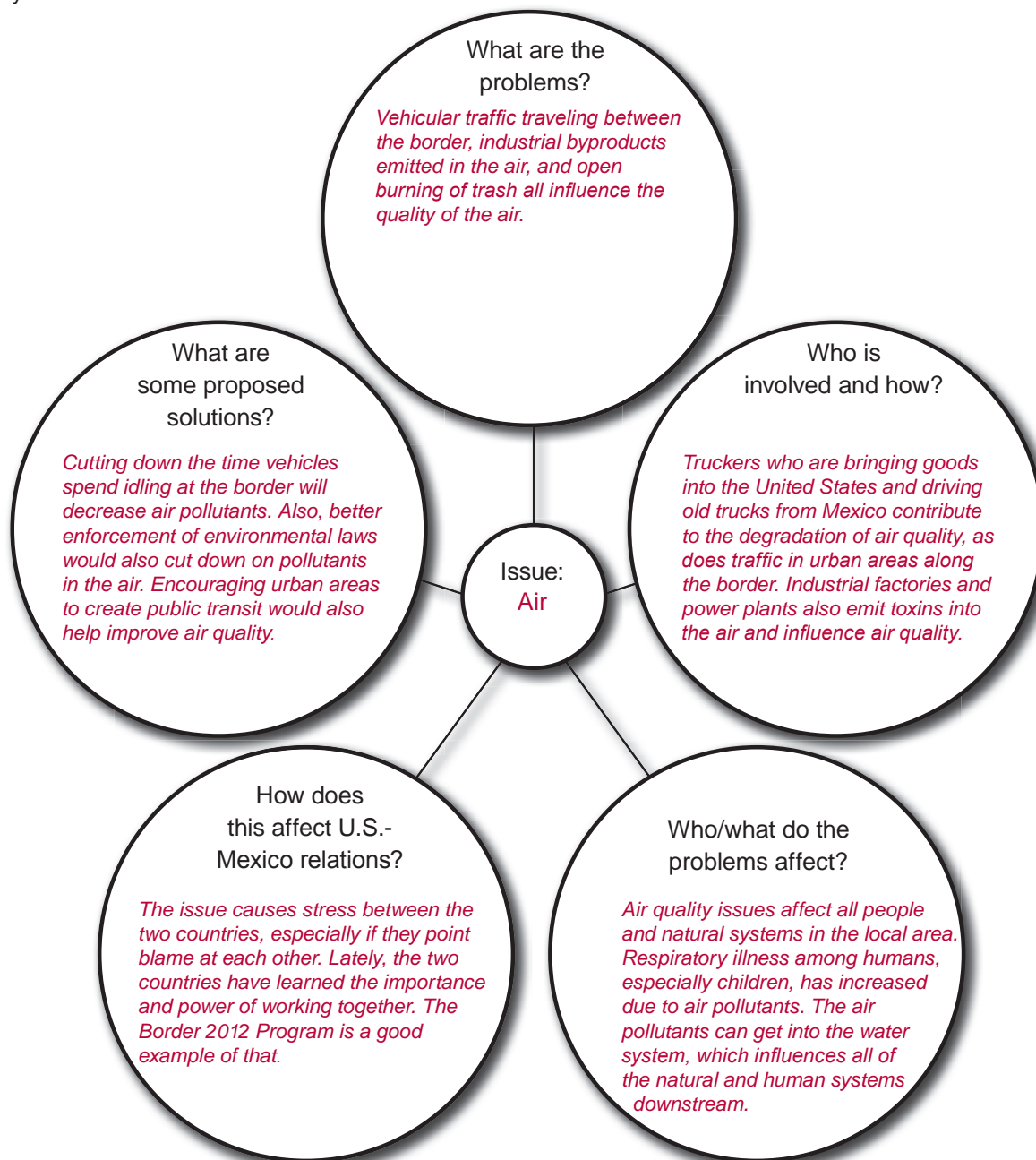
Answer Key and Sample Answers

Environmental Problem Concept Map

Alternative Unit Assessment Master

Name: _____

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Extensions & Unit Resources



Extension Ideas

Have students research and debate the connection between maquiladoras and environmental issues in the U.S.-Mexico border region. One side should argue that there is limited data showing a direct connection between the maquiladoras and environmental issues in the border region. The other side should argue that there has been an apparent increase in environmental issues in areas surrounding some maquiladoras.

Encourage students to look further into the health of people who live along the border. They could research different sub-regions, identify environmental problems, and analyze the influence those problems have on people's health. Students could then present their findings to the class.

Assign students to create a PowerPoint presentation about other environmental issues in the border region. They could use pictures, music, and film clips to show the quality of life for people who live there and how environmental issues affect people's lives.

Have a local environmental expert visit class to discuss the effects specific environmental issues have on natural ecosystems.

Resources for Students

California State Parks, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration. Tijuana Estuary and Border Field State Park. <http://www.tijuanaestuary.com>

Commission for Environmental Cooperation (English version).
<http://www.cec.org/home/index.cfm?varian=english>

National Estuarine Research Reserve System, National Oceanic and Atmospheric Administration. Tijuana River Reserve. <http://www.nerrs.noaa.gov/TijuanaRiver>

National Park Service. Big Bend National Park. <http://www.nps.gov/bibe>

U.S. Environmental Protection Agency. U.S.-Mexico Border 2012 Program.
<http://www.epa.gov/Border2012>

References for Teachers

Good Neighbor Environmental Board. February 2005. *Water Resource Management on the U.S.-Mexico Border. 8th Report to the President and the Congress of the United States*. U.S. Environmental Protection Agency. www.epa.gov/ocem/gneb/gneb8threport/gneb8threport.pdf

Fort, Denise. January 28, 2003. Who Owns the Rio Grande? Public v. Private Interests in a Western River. *Jurist*. <http://jurist.law.pitt.edu/forum/forumnew91.php>

International Boundary and Water Commission. www.ibwc.state.gov

Institute for Regional Studies of the Californias. <http://irsc.sdsu.edu>

International Relations Center. Americas Program. <http://americas.irc-online.org>

Southwest Consortium for Environmental Research and Policy. <http://www.scerp.org>



Texas Commission on Environmental Quality. Border Affairs: Environmental Issues in the U.S.-Mexico Border Region.
<http://www.tceq.state.tx.us/border>

Texas National Resource Conservation Commission. June 2002. *State of the Rio Grande and the Environment of the Border Region. Strategic Plan, 2003-2007.* vol. 3.

<http://www.tceq.state.tx.us/assets/public/border/vol3.pdf>

U. S. Census Bureau. www.census.gov

U. S. Department of the Interior. Bureau of Reclamation. Upper Colorado Region.

<http://www.usbr.gov/uc>

U.S. Environmental Protection Agency. U.S.-Mexico Border 2012 Program

<http://www.epa.gov/border2012>

U. S. Geological Survey. U.S-Mexico Border Environmental Health Initiative.

<http://borderhealth.cr.usgs.gov>

U.S.A.-Mexico Border Health. Environmental Health.

<http://borderhealth.raonline.org/topics/topic.php?topic=Environmental%20health>

The University of Arizona Udall Center for Studies in Public Policy. U.S.-Mexico Border Environment Publications.

http://udallcenter.arizona.edu/publications/pubs_usmex.htm

Woodrow Wilson International Center for Scholars.

<http://www.wilsoncenter.org>

Instructional Support

Agencies, institutions, and organizations throughout California have identified themselves as providing programs and materials that support this unit. Links to these resources are available at

http://www.calepa.ca.gov/Education/EEI/instructional_support.html